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# Political negotiation as a process of modifying utilities

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A variety of bargaining processes in real life can be understood by means of theoretical models. Price theory and (in a more general way) the theory of “games of strategy” are helpful for our understanding of important real situations. But when we wish to study political negotiations, these theoretical tools seem to be of but limited use for the complex reality. They may at best give us some broad generalizations rather removed from the interesting details. We must first come to grips with the reality of political negotiations in a more systematic fashion before we can relate current bargaining theory to it.

This paper constitutes the initial output of a continuing study on political negotiations. The aim of the larger study is to develop a theory of negotiations; the aim of this paper is to present a formalization that can be used towards the construction of such a theory.

We shall put our formalization to the test by applying it to propositions from the literature on actual negotiation behavior or on “good” negotiating techniques. If successful, the reformulation of these propositions will make them more precise and will

help to determine in what situations and to what extent they are valid.

Our formalization might be useful also for developing *new* propositions on the basis of data from actual negotiations. Later on, some elements of the formalization might be amenable to mathematical solutions.

## *I. The Formalization*

### UNSTABLE AND LARGELY UNKNOWN PREFERENCES (OR “UTILITIES”)

The theory of games of strategy is concerned with situations that resemble certain aspects of political negotiations. We might therefore start to explain our formalization by discussing how it differs from traditional game theory. Game theory usually assumes the existence of a real utility for each player which is *stable throughout the game*. In addition, it is assumed that each player knows his own utility and often that of all the other players. (If the utility functions of the other players are not known, they are at least stable.)<sup>2</sup>

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<sup>1</sup> Any views expressed in this paper are those of the authors. They should not be interpreted as reflecting the views of The RAND Corporation or the official opinion or policy of any of its governmental or private research sponsors.

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<sup>2</sup> Luce and Raiffa discuss games in which a player misperceives another player's payoff function (“*m*-games”) (Luce and Raiffa, 1958, pp. 270–1). There have also been experimental studies of bargaining situations in which the players have incomplete information about their opponent's payoff (e.g., Siegel and Fouraker, 1960).

The essence of our formalization is that it recognizes neither known nor stable utilities. For the time being, we shall leave aside the question as to whether there are no stable utilities in political negotiations, whether they exist but are unknown, or whether our formalization simply does not make use of stable utilities. (It may be possible later to reformulate a utility concept that takes account of this instability.) In order to avoid confusion with established concepts from game theory or economics, we shall resort to our own definitions and terminology where our concepts seem to differ. To a large extent, our concepts are of a psychological nature.

Traditionally, "utility" is experimentally determined (and hence operationally defined) by an *act of preference*: if a subject chooses alternative *A* in preference to alternative *B*, *A* is said to have a greater "utility" for this subject than *B*. More precisely, it should be recognized that the "utility" is associated with those characteristics and/or consequences of the alternatives (and the probabilities of their occurrence) that the subject *expects and considers* when making the choice. In the political realm, where the consequences of choices are so complex and intuition plays such a large role, it is clear that utility thus defined is unlikely to remain stable during the course of negotiations.

### *The "Disposition" to Prefer*

To understand political negotiations, therefore, we need a concept that takes account of the changes in preferences, in distinction to the *act of preference* which occurs at the time a choice is made and which can be used operationally to define "utility" only at that time. We may define for each negotiator<sup>3</sup> and for a given time in the course of negotiations a "disposition to prefer" as the negotiator's estimate that he

will prefer one alternative over another if and when he has to make the choice. The most important choice is, of course, that between agreement at given terms and no agreement. Theoretically, we can ask each negotiator at any time during the negotiations what the least favorable terms are at which he would prefer agreement to no agreement. We call these terms—which are often quite vague—the negotiator's *Minimum Disposition* (at time *t*).

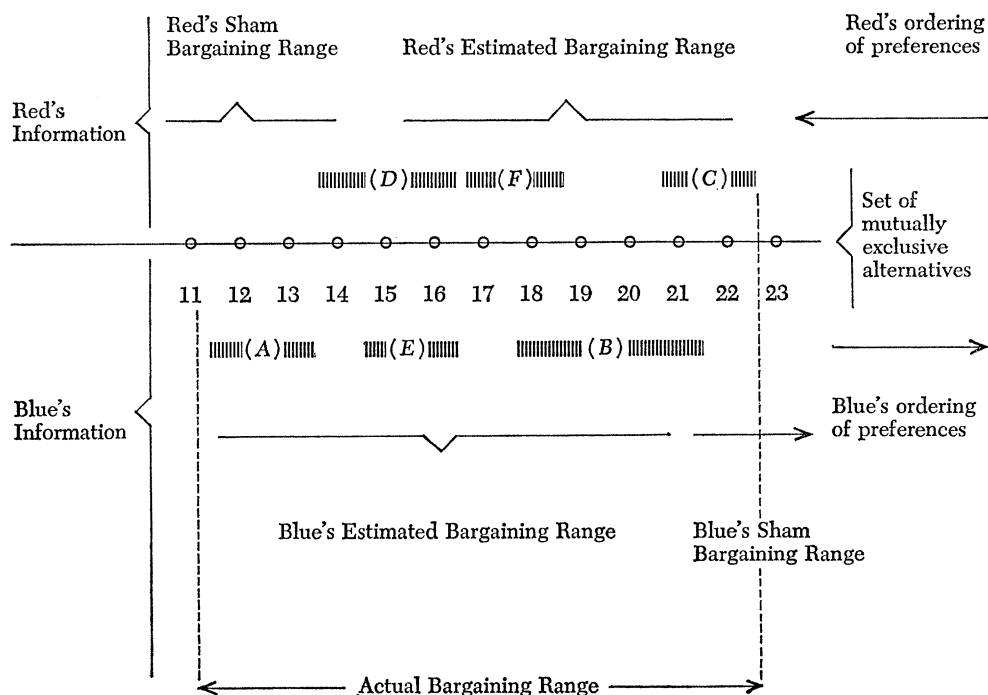
To construct a model of negotiations between two countries (or between two opposing alliances) we initially make the following simplifying assumption: the negotiations deal with an agreement where the two sides have a conflict of interest in only one set of mutually exclusive alternatives, *A, B, C, . . . N*; and one side always prefers *A* to *B*, *B* to *C*, . . . (*N* - 1) to *N*, while the preferences of the other side are in reverse order. (Note that this constant ordering of preferences does not imply constant utilities!) An example of such negotiations would be a disarmament agreement for which only the number of inspections is at issue, with Red always preferring a smaller number of inspections to a larger one, and conversely for Blue.

In Figure 1 Blue's Minimum Disposition covers alternatives 12 or 13, i.e., Blue estimates that it would prefer no agreement to an agreement that allows fewer than 13 or 12. (Blue is not sure whether its minimum lies at 12 or at 13.) Blue furthermore esti-

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<sup>3</sup> Governments that negotiate with each other do not, of course, have a unitary interest. Each government is a collection of individuals and subgroups with somewhat conflicting interests, and has to work out a common position towards other governments. This complication will be considered later. For an interesting account of the negotiations within a government as part of the process of negotiations with other governments see (Pruitt, 1962).

FIGURE 1



Shaded Areas: A Blue's Minimum Disposition  
 B Blue's Estimate of Red's Minimum Disposition  
 C Red's Minimum Disposition  
 D Red's Estimate of Blue's Minimum Disposition  
 E Blue's Estimated Probable Outcome  
 F Red's Estimated Probable Outcome

mates that Red's Minimum Disposition lies somewhere between alternatives 18 through 21. Thus Blue's *Estimated Bargaining Range* extends from 12 through 21. This, however, need not keep Blue from asking for more. If Blue asked for 23 it would pretend that it thought 23 was still within the bargaining range; we might call such a demand a *Sham Bargaining Position*.

We can now define concessions. Hitherto discussions of negotiations usually failed to distinguish between a negotiator who makes a "concession" by dropping a demand he never expected the other side

to accept, and one who thinks his concession increases the attractiveness of a proposal that the other side might have accepted prior to the concession. Based on our model, we may call a negotiator's change in bargaining positions from one he prefers more to one he prefers less a *Sham Concession* if these two positions lie in his Sham Bargaining Range, and a *Genuine Concession* if they fall within his Genuine Bargaining Range.<sup>4</sup> While this particular

<sup>4</sup> A concession moving from the "sham" into the "genuine range," would combine both a "sham" and a "genuine" part.

terminology is unimportant, we know of no other satisfactory model for defining a "concession."

Actually, governments often enter negotiations without being conscious of their Minimum Disposition and without making an effort to estimate the opponent's Minimum Disposition. Political negotiators frequently seem to be somewhat reluctant to estimate the bargaining range. They may feel that such estimates might reduce flexibility and the capacity to put pressure on the opponent. The tendency not to estimate a bargaining range is also fostered by the fact that real negotiations are immensely more complex than our model, since most agreements involve a great many bargaining ranges which must be combined into an over-all bargain.

Instead of estimating the bargaining range, a negotiator may estimate a *Probable Outcome*, i.e., the approximate terms at which he expects agreement. The negotiator might, of course, estimate both the Genuine Bargaining Range and the Probable Outcome and thereby—in the game-theoretical sense—imply a solution for the division of the payoff. In political negotiations, especially at the beginning, such a double estimate is seldom made. In a more complex situation, which, as was just said, is likely to prevail, the negotiator may form an image of the anticipated treaty whose terms represent the Probable Outcome on all of the disputed issues (e.g., a disarmament agreement with 15 or 16 inspections [Figure 1], such and such a budget, certain administrative arrangements, etc.).

Frequently, some conspicuous feature will dominate the negotiator's estimate of the Probable Outcome. Thus, geographic features may suggest to negotiators the Probable Outcome of a dispute on the di-

vision of a certain territory.<sup>5</sup> These prominent or "focal" outcomes may dominate the calculations of a negotiator so much that they begin to determine his estimates of the bargaining range (if he makes such an estimate): the negotiator begins to group his Minimum Disposition and his estimate of the opponent's Minimum Disposition around his estimate of the Probable Outcome. For example, once the negotiator estimates that a certain river will form the demarcation of a disputed territory, any major departures to the left or the right of that river may appear unacceptable to himself (i.e., beyond his Minimum Disposition) or to his opponent, respectively.

We must now consider the changes over time in the negotiators' own Minimum Disposition and estimated Probable Outcome, and in their estimates of the opponent's Minimum Disposition and estimated Probable Outcome. This change is not a perturbation or a "nuisance factor" that one might want to randomize or hold constant in a study of negotiations; it is the very essence of the negotiating process. Sometimes, a negotiator may anticipate a change in the Minimum Disposition of his opponent. For example, at the beginning of a conference Red may estimate both Blue's initial Minimum Disposition and Blue's terminal Minimum Disposition, and conceive of his bargaining task as the effort required to make Blue change from the former to the latter.

#### *Modification of Dispositions and of Estimated Outcomes*

As long as both sides try to get an agreement, they will seek to improve the terms

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<sup>5</sup> Schelling pointed out the importance of such prominent, conspicuous, or focal points (Schelling, 1960, pp. 68-74).

for themselves through the modification of Dispositions and estimated Probable Outcomes. If I am the negotiator, I will attempt to modify:

(A) My opponent's Minimum Disposition; i.e., make him believe or feel that he would prefer an agreement to no agreement on terms more favorable to me than he originally thought;

(B) My opponent's estimate of my Minimum Disposition; i.e., make him believe that the terms at which I would prefer no agreement are, in fact, less favorable to him than he had first thought.<sup>6</sup>

If my opponent pays more attention to his estimate of the Probable Outcome than to his estimate of the bargaining range, my efforts will also have to be directed to the former. I might try to convince my opponent that his estimated Probable Outcome lies outside the bargaining range and hence is improbable, or that it would imply an "unfair" division of the bargaining range. For example, in an earlier stage of the Berlin crisis many people in the West seemed to consider the *status quo* as a Probable Outcome if the West remained firm. Khrushchev succeeded in convincing important segments of Western opinion that the *status quo* was beyond his Minimum Disposition. According to the people so convinced, the West, if it asked for the *status quo*, either could not expect an agreement or would be putting forward a Sham Bargaining Position.

As a negotiator, I can try to modify the Minimum Dispositions or the estimated probable outcome in various ways. (A) I may modify my opponent's Minimum Dis-

position: (1) By altering the actual situation on which his Minimum Disposition is based. Particularly important are facts that make an agreement seem more urgent to my opponent than he first thought so that he will be willing to settle for less. The strengthening of forces or military advances during armistice negotiations belong in this category, as do threats (and actions to make threats credible) as to what would happen to the opponent if no agreement was reached. These actions represent bargaining moves in a broader sense and can, of course, be far more important in determining the terms of agreement than the negotiations proper.<sup>7</sup> (2) By pointing out the advantages and minimizing the disadvantages of my proposed terms to my opponent. (For example, the proponents of European integration explained to their nationalist opponents that the Common Market agreement could not really lead to the loss in national sovereignty that the opponents feared.) (3) By conveying to my opponent my (actual or faked) estimate of his Minimum Disposition. (This can easily be illustrated for economic negotiations: I convey to my opponent that I "know" that he can still make a profit if he sells to me for as little as . . . .) This may change my opponent's estimated Probable Outcome in my favor. (4) By portraying to my opponent a certain intrinsic development of the negotiations and convincing him that the *Negotiation Mores* require that he follow this development.<sup>8</sup>

<sup>7</sup> Here we are concerned only with the effect of these bargaining moves on Minimum Dispositions. A more general study of negotiation will have to deal extensively with extra-negotiatory actions in support of negotiations.

<sup>8</sup> By *Negotiation Mores* we mean the conceptions as to the "proper" conduct in negotiations, that are held by negotiators, their government, their domestic public, etc. Those who

<sup>6</sup> A further extension of this chain of "his estimate of my estimate of his estimate" etc. can be avoided in a mathematical formulation by using a normalization as a function of the preceding preferences (dispositions).



For instance, I might demonstrate to my opponent that I made many concessions and convince him that he should reciprocate with a concession. If my opponent reciprocates to the extent of revising his Minimum Disposition, consideration of the Negotiation Mores must have led him to prefer agreement at terms which he originally found unacceptable. Thus, the Negotiation Mores become part of the negotiator's utility: violating them may cause political damage at home, make the negotiator feel badly, or aggravate relations with the opponent and thus spoil future negotiations.

(B) I may modify my opponent's estimate of my Minimum Disposition: (1) By altering the actual situation on which my opponent's estimate of my Minimum Disposition is based. Most important here are commitments, or "burning bridges." If a decision-maker convincingly commits his prestige to a prediction that he will obtain

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hold these conceptions generally believe that it is advantageous to conform to the "proper" conduct. Examples of such conceptions generally held in the West are: that a sequence of concessions by the opponent should be answered with some counterconcession, that one should adhere to an agreed agenda, that agreed solutions of components of a larger disputed area (e.g., agreed treaty articles) are to be preserved unless compelling reasons intervene. Among friendly countries the mores of negotiation are, of course, more important than among hostile governments; adherence to a larger set of rules is found both necessary and expedient. The reason for this lies in the continued relationship between friendly governments and the expectation (supported by past experience) of reciprocity in future negotiations. In the context of game theory, *Negotiation Mores* might be described as optional rules of a super-game whose violation carries with it a certain expectation of a penalty in the current or in future subgames with the same partner.

certain terms in negotiations, his opponent may be led to estimate that these terms, or something close to it, constitute the Minimum Disposition. (2) By convincing my opponent that it would be disastrous or impossible for me to agree to less than my proposed terms. I may use legal arguments, thus essentially say to my opponent: "You know that I am constrained by legal norms and I am explaining to you that it would be illegal for me to agree to your proposed terms; hence, I cannot do it." In disarmament negotiations the West is prone to use scientific justifications in an attempt to convince the Soviet Union that the West must insist on certain minimum terms. (3) By exhibiting attitudes consistent with a Minimum Disposition more favorable than my opponent's estimate. I may portray coolness towards the negotiations, suggesting that I am about to walk out unless the opponent's proposals become much more favorable for me. I may show total disinterest towards any proposals that are below my actual or fake Minimum Disposition by refusing to discuss them and reacting with scorn.

A number of studies on bargaining have dealt with various aspects of the process described here in terms of modifications of Minimum Dispositions. Corresponding to our above categories A(1) and B(1), changes in payoffs have been analyzed, particularly threats to affect the opponent's payoffs and commitments to affect one's own payoff.<sup>9</sup> What seems to have received less attention are changes in the negotiators' expectations and estimates that are not due to factual changes in payoffs but nonetheless play an important role in the negotiatory process.

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<sup>9</sup> For excellent analyses of threats and commitments, see (Ellsberg, 1959; Schelling, 1960).

### *Demands, Offers, and Bargaining Positions*

According to our model, the principal objective of a negotiator is to modify the opponent's estimate of the Probable Outcome and Minimum Disposition. In this effort, bargaining positions play an important role in the form of initial demands and offers, counterdemands and counteroffers, or positions regarding subsidiary details. In many negotiations, we may clearly distinguish between an offensive and a defensive side. The offensive side, wanting to change the *status quo*, often starts out with a *Prominent Demand*, which is combined with a clear threat, supported by elaborate justifications, and usually maintained during a large part of the negotiations if not to the end. Examples are the new status for West Berlin demanded by Khrushchev, a package of a wage increase plus welfare measures demanded by a labor union, or the extension of the limit for foreign fishing vessels successfully demanded by Iceland a few years ago.

In most labor-management negotiations, management does not view an increase in wages as an unacceptable outcome, although it will attempt to stay close to the *status quo*. In other words, the Minimum Disposition of management, right from the outset, is a change in wages to its disadvantage. In political negotiations, however, the initial Minimum Disposition of a *status quo* power is normally the *status quo* and nothing less.<sup>10</sup> Therefore, a *status quo*

power is at a disadvantage if it enters negotiations defensively when faced with a Prominent Demand: its initial bargaining position is identical with its Minimum Disposition. It can make concessions only by revising its view as to what it initially considered to be the terms at which it would prefer no agreement. If it is concerned about reaching agreement, it will contribute to the erosion of its own Minimum Disposition, and third parties may hasten this erosion further. With the passage of time, the Minimum Disposition of the *status quo* power will be remembered more and more as an initial bargaining position (which, indeed it was, too); and according to the Negotiation Mores, such a position ought to be followed by revised, later bargaining positions. Third parties may mistake the difference between the Prominent

that makes it largely inapplicable (or not very meaningful) to political negotiations. We might get ourselves into insoluble questions about estimates of feelings associated with a hypothetical event, if we tried to ask a negotiator (or a government!) whether he would be "satisfied" or "dissatisfied" with particular terms of an agreement (i.e., whether these terms would be above or below his "level of aspiration" [Siegel and Fouraker, 1960, p. 62]), as distinct from the question whether the negotiator presently thinks that he would accept or reject an agreement at those terms (our Minimum Disposition). Yet, many of the bargaining experiments concerned with "levels of aspiration" are highly relevant for the political bargaining process that we have in mind. Thus, Siegel and Fouraker show that if Blue makes many offers below Red's Minimum Disposition (which is constant in their experiments), Blue may decidedly shift Red's estimate of the Probable Outcome (and hence Red's counteroffers) to Blue's advantage. For instance, in the experiment reported on p. 77 in the Siegel and Fouraker book, the seller who made 14 unacceptable bids as against only 7 by the buyer won a much larger share of the payoff. (We are indebted to Daniel Ellsberg for pointing out this interesting relation.)

<sup>10</sup> For the offensive side, the Prominent Demand may initially represent its "level of aspiration" (as defined in the literature [Siegel and Fouraker, 1960]). But for the defensive side the initial "level of aspiration" is the *status quo* (i.e., its Minimum Disposition and level of aspiration coincide). It is our impression, however, that the concept "level of aspiration" is based on an operational definition



Demand of the offensive side and the initial position of the defensive side as the actual bargaining range, i.e., the range within which both sides would prefer agreement to no agreement.<sup>11</sup> These third parties will then estimate that the Probable Outcome lies somewhere between these two “extremes,” and that a “fair” outcome should be about in the middle.

### *Some Additional Problems*

Our formalization obviously has to be developed further in order to take account of the important aspects of political negotiation. Let us just mention a few of these required developments.

As said before, political negotiation normally involves many bargaining ranges, i.e., many more or less independent sets of disputed alternatives. Hence, our one-dimensional model described in Figure 1 must be made multidimensional. In reality, negotiators combine outcomes (or estimated Probable Outcomes) on several bargaining ranges into one over-all agreement, thereby making comparisons between different utility scales. (Are three additional inspections worth thirty per cent fewer of my nationals on the inspection teams? Does the desirable agreement on an under-secretary make up for the undesirable voting formula on the budget?) These comparisons are themselves unstable, much as the utilities underlying them. The negotiators will attempt to modify the comparisons of their opponent, similar to their effort to modify the opponent's Minimum Disposition. The importance of the agenda is partly due to

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<sup>11</sup> However, there is no “actual bargaining range” (in terms of our model) in this postulated situation, since the defensive side prefers no agreement to any deterioration of the *status quo*, and the offensive side prefers no agreement to an agreement that would merely confirm the *status quo*.

the fact that it provides an ordering for these comparisons.

Another problem of which our formalization ought to take account is the effect of the passage of time on negotiating positions. The prolongation of a status of no agreement may cost one side more than the other, so that dilatory negotiation tactics have an asymmetrical effect.

### *II. Reformulation of Propositions*

#### FIRST EXAMPLE: SHOULD ONE MAKE UNACCEPTABLE DEMANDS?

Henry Kissinger discussed the argument heard in the West that one should not make “unacceptable” proposals. He objects to this argument, in part because its consequence would be to confine the debate between East and West to issues of embarrassment to the West (Kissinger, 1961, p. 206).

According to our formalization, making “unacceptable” demands means to put forward a Sham Bargaining Position. What are the pros and cons of doing this? Sham Bargaining Positions may *improve* the chances of a favorable agreement because: (1) Our estimate of the opponent's minimum disposition is often very uncertain. We cannot find out whether we were wrong to our disadvantage unless we put forward what we think is a Sham Bargaining Position. In other words, if we try, we might discover that our opponent accepts more than we thought he would. (2) We may modify our opponent's Minimum Disposition to our advantage precisely by putting forward Sham Bargaining Positions.<sup>12</sup> (3) Given the fact that we are to some extent constrained by Negotiation Mores

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<sup>12</sup> This is the mechanism described above on p. 23 as technique A (3). See also end of footnote 10.

according to which it is bad to stand pat and concessions ought to be met by concessions, Sham Bargaining Positions permit us to show "flexibility" or to make "concessions" without seriously jeopardizing our Minimum Disposition. (4) Sham Bargaining Positions make it more difficult for our opponent to estimate our Minimum Disposition. (Our opponent has an advantage over us if he knows our Minimum Disposition and we remain ignorant about his.)

Sham Bargaining positions, however, can also be disadvantageous because: (1) It may be difficult to marshal public support for such positions. (2) Sham Bargaining Positions may cause my opponent to think either that there is no room for agreement or that I am simply unwilling to come to an agreement.<sup>13</sup> He may react to this by breaking off further negotiations. (3) Sham Bargaining Positions may delay agreement. (4) The sequel to Sham Bargaining Positions has to be (sham) concessions (if my estimate of my opponent's Minimum Disposition was approximately right). This may set an unfavorable precedent for other negotiations because it indicates that my initial positions are not firmly held.

#### SECOND EXAMPLE: HOW TO AFFECT THE SOVIET ESTIMATE OF A WESTERN MINIMUM DISPOSITION

Philip Mosely wrote that in negotiations with Soviet representatives "it is important to adopt in the beginning a single clear po-

sition, one which can be upheld logically and politically during the discussions. The Soviet delegation will not report this position as the final and strongly held one until they have had a chance to attack it from all sides. Indefinite repetition of arguments must be accepted as an inevitable preparation to negotiate [Mosely, 1960, p. 36]."

In situations where this requirement prevails, Sham Bargaining Positions may be disadvantageous, since Western negotiators might find it difficult to uphold them "logically and politically." In such a situation, it would be better for Western negotiators to put forward a single position, perhaps one comfortably better than the Western Minimum Disposition, but—if possible—short of the Western estimate of the Soviet Minimum Disposition. Then the Western negotiators should defend this position as forcefully as if it were their Minimum Disposition.

#### THIRD EXAMPLE: NEGOTIATION MORES WORK TO ONE'S DISADVANTAGE UNLESS OBSERVED BY BOTH SIDES

Admiral Joy reported from the Korean armistice negotiations: "We Americans tend strongly to a line of action that we call 'being reasonable.' This means that each party to a dispute should be prepared to modify his position somewhat in an effort to achieve an agreeable solution. Yet, such an attitude is based on the implicit assumption that each party to the dispute sincerely believes his position is the correct one. We do not compromise with a man who insists that 2 plus 2 equal 6. . . . The point is that the relative reasonableness of initial positions taken must be considered before we decide that both parties in a dispute should give a little [Joy, 1955, pp. 59–60]."

This passage reflects an interesting partial emancipation from the Negotiation

<sup>13</sup> The former means that the opponent thinks there is no positive actual bargaining range. In the latter case he thinks that I am unwilling to conclude an agreement at this time, although there might be a positive actual bargaining range if I wanted an agreement. Sham Bargaining Positions may be used when no agreement is desired, but there is an interest in *pretending* that efforts are being made to reach an agreement.

Mores. The rule that concession ought to be met by concession, Joy argues correctly, can only be followed if doing so does not lead to a position one finds unacceptable. We cannot make a concession to the point of agreeing to what we think means 2 plus 2 equal 5. However, Joy proposes to make our adherence to the Negotiation Mores depend on the intrinsic "correctness" of the opponent's position, rather than on reciprocal concessions by both sides as long as both ask for more than their Minimum Dispositions. Politics is not like arithmetic, what is 2 plus 2 equal 5 to one side may mean 2 plus 2 equal 4 to the other. In politics we often do compromise with a man who initially seems to insist to us that 2 plus 2 equal 6, because under the impact of the negotiations we revise our Minimum Disposition and learn to accept that 2 plus 2 equal 5. Joy's own account of the armis-

tice negotiations contains examples of this process.

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